

Regulating the Internal Environment

Making Exchanges throughout the Body

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Organ system

a group of organs that work together to do a job

- exchange materials between different parts of the body
- regulate conditions within the body

3 systems that exchange materials

- gas exchange system
- circulatory system
- urinary system

Gas exchange system

a delivery system that provides air to the lungs (respiratory system)

In the lungs, oxygen (O_2) moves from the air into the lungs

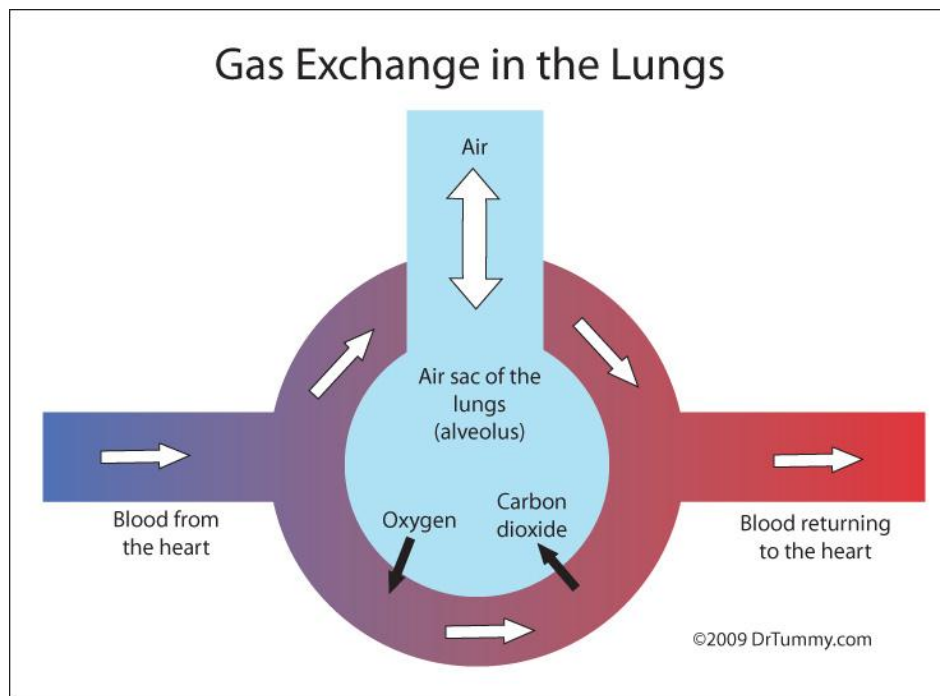
Carbon dioxide (CO_2) moves from the bloodstream to the lungs, and then into the air

<http://www.brainpop.com/health/bodysystems/respiratorysystem/>

<http://www.kmph.matrik.edu.my/wbl/Web%20Base%20Learning%20Biology/Main/SB017/C7%20Gaseous%20exchange>

<http://www.kmph.matrik.edu.my/wbl/Web%20Base%20Learning%20Biology/Main/SB017/C7%20Gaseous%20exchange%20and%20its%20control/Animation/transport%20of%20oxygen%20and%20carbon%20dioxide.swf>

<http://www.kmph.matrik.edu.my/wbl/Web%20Base%20Learning%20Biology/Main/SB017/C7%20Gaseous%20exchange%20and%20its%20control/Animation/gas%20exchange%202.gif>



Urinary system

filters the blood to remove water, salts and wastes that contain nitrogen

Circulatory system

transports oxygen, nutrients and other substances to cells in the body, and carries waste products from the cells to the lungs

Heart pumps blood throughout the entire circulatory system

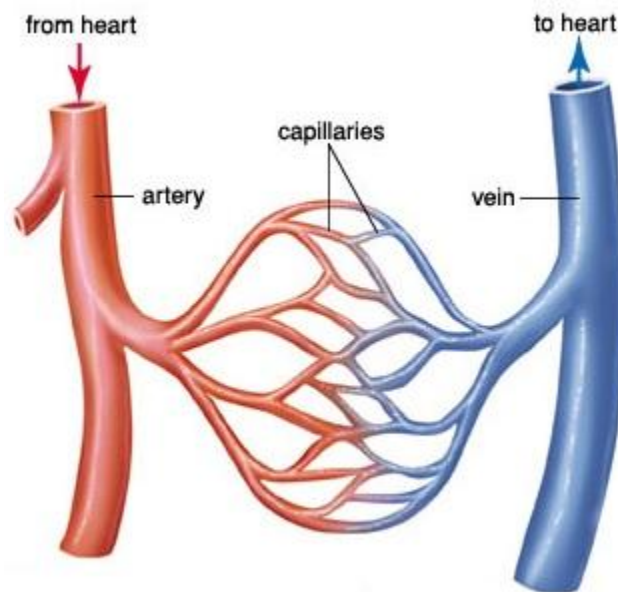
Blood vessels tubes that carry blood throughout the body

Arteries blood vessels that take blood away from the heart

Veins blood vessels that return blood to the heart

Capillaries tiny, thin blood vessels that allow the exchange of materials (oxygen, glucose, carbon dioxide, etc.)

Found at the end of an artery and the beginning of a vein



<http://www.brainpop.com/health/bodysystems/circulatorysystem/>

Ammonia

waste product produced by cells
when proteins break down

Causes serious illnesses when it
builds up in the body

Liver

changes ammonia to nontoxic urea
and delivers it to the blood

Kidneys

organs of the urinary system that
adjust the materials of the blood
and produce urine

1. Kidneys filter blood to remove
urea and other wastes, which
produce urine
2. Kidneys restore correct balance
of water, salts and other
important substances to the
blood

<http://www.brainpop.com/health/bodysystems/urinarysystem/>

Regulating the Internal Environment

Process and Procedures

Part A: Circulatory System

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1a. Diagram the path of blood through the body from the left little toe, through the heart, into the right big toe.

1b. Draw arrows along or inside the vessels to indicate which way the blood flows.

1c. Label your drawing and create a legend that describes your path. Include labels for the following: arteries, veins, capillaries, all four chambers of the heart, and the lungs.